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# **Workshop on Engaging Learning: Bringing the Stakeholders' Perspective to Work Based Online Learning (Based on a Case Study from Northumbria University)**

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## ***Abstract:***

Work-based learning (WBL) is used to describe a class of programmes that bring together education and work organisations to create new and engaging learning opportunities in workplaces (Boud and Solomon, 2001). WBL is viewed as a useful mechanism for supporting the personal and professional development of students who are already in work. The focus of the learning and development tends to be based on the student's workplace activities and increasingly uses online learning approaches (Brennan and Little, 2006). This workshop presents the findings from a study, whose major aim is to investigate the perceptions of stakeholders on the effectiveness of WB online learning programmes in higher education for the learner. Often such programmes are designed, delivered and supported from the view of the student and academic staff with little consideration of other stakeholders such as employers, workplace mentors and professional bodies and what their input can bring to enrich the learning and teaching provision. The study has gathered views from various stakeholders on four postgraduate WBL programmes. Situated around four themes: the learner; the academic environment; the workplace; and the external context (includes professional bodies), this study explores the key issues for these stakeholders, providing an in depth look at WBL in practice.

## **1. Introduction**

Work-based learning (WBL) focuses on learning in and from the workplace where work, rather than a set curriculum, provides the focus for the learning programme (Durrant, Rhodes and Young, 2009). Such programmes meet the needs of learners, contribute to the longer-term development of the organisation and are formally accredited as university courses. WBL has increasingly become an area of interest for the higher education (HE) sector and is viewed as a valuable mechanism for supporting the personal and professional development of students who are already in work. This paper presents findings from a study that concentrates on programmes of study in higher education that use online learning to support work-based learning activities.

There are a large number of professionals who seek higher education opportunities as well as continuing professional development (CPD) while they are employed (Liyanage *et al.*, 2010). WBL is increasingly used as a mode of study for this category of learners and as a way of introducing change of practices within the workplace.

In addition, many employers want to train and re-train their employees in various discipline areas. This creates opportunities for continuing education. In this context, *online learning* for WBL has been viewed as a way to increase access to higher and continuing education. It is also one of the innovations related to the teaching and learning aspects of post-secondary education that is attempting to engage seriously with the economic, social and educational demands of our time. Interestingly, it provides a fundamental challenge to existing practices and provides new possibilities for post-secondary pedagogy and education. The essence of *online learning* can be viewed as learning anytime, anywhere, using any tool, an approach which is very much aligned with the modern day multi-tasking daily routines (Liyanage, 2010).

Northumbria University is one of the pioneering and leading institutions in United Kingdom for conducting work-based learning programmes catering to many employees who seek university level higher education qualifications to move up to higher levels in their professional careers. The University has recognised work-

related learning as a vital mode of learning for increasing participation and enhancing the HE curricula. It has cascaded work-based learning through the University's strategy and an institution wide framework has been put in place that helps the development of programmes. There are also a number of undergraduate and postgraduate level WBL programmes being conducted by all schools within the university using an online distance education (DE) mode of delivery. Income from work-related learning accounts for around 1% of the University's overall funding and in 2006 its target was 900 students (an increase of 350 on the previous year) (Nixon *et al.*, 2006).

Several noteworthy endeavours have taken place in the University and these provide a useful context to the current study. The *Work-based Learning Framework (WBLF)* was developed in 2005 to streamline and formalise activities related to WBL as the most important step towards becoming a centre of excellence (University, 2010). It was designed to enable employers, and sectors, to offer their workforce highly relevant professional development programmes designed to fit their specific needs - in terms of areas of upskilling, content, length and mode of programme delivery. The WBLF includes Awards which can be customised to the learners' requirements and is designed to be flexible and accessible.

Northumbria is committed not just to the development of individuals, but also to organisations by applying the vocational nature of teaching to both the public and private sectors. The WBLF is ideally suited to organisations that wish to develop their workforce and can benefit from access to the knowledge base, expertise and facilities of the University.

The *Work Related Learning Services (WRLS)* was established in 1999. The primary role of the WRLS is to develop a portfolio of innovative and relevant work-related learning products across the institution. The service explores current thinking to identify and advise on strategy, direction and new opportunities. It develops and tests curricula, learning products and infrastructure responding to the demands of employers, students, different schools of the university and other agencies. It manages a county-wide WRL project as a key activity to support the increase in demand for WRL from University Schools (Bennett, 2010).

An innovative idea initiated by one of the university schools and called the *Professional Practice Awards (PPA) Programme*, has been developed to support personal, professional and organisational development. This is a type of WBL which is characterised by negotiation between the student, academic tutor and the workplace representative (Shiel, 2010). The university continues to develop its WBL programmes. For example the longest established programmes within the current study are the MSc/MA in Information and Library Management (ILM), a popular programme commenced in the early nineties in full time and part time delivery modes. The programme was redesigned to offer delivery in distance learning mode from 2003 and currently uses online delivery of content to support its cohort of work-based learners.

## **2. Research Approach**

The aim of the study is to develop a model as a suggested way forward for an online learning environment for work based and distance learners which, takes account of the identified needs of all stakeholders including learners, tutors, workplace mentors and professional regulatory bodies. The expectations of various stakeholders in an online learning environment are very different from each other (Liyanage, Pasqual and Wright, 2010). Using a case study approach this research project examines the perceptions of stakeholders drawn from four contrasting programmes within the School of Computing, Engineering and Information Sciences at the University of Northumbria. Three of them are closely linked to professional regulatory bodies and employ a work-place learning model namely the MA/MSc in Information and Library Management (ILM), MSc in Records Management (RM) and the MSc Professional Engineering. The fourth programme, MSc in Information Technology (IT) is not linked to a professional body, but was originally set up primarily for adult, working, 'women returners' although recent cohorts reflect a wider diversity than this.

An online questionnaire was administered for the students of four MSc programmes mentioned above. The total number of students was 155 and 60

responses were received giving an overall response rate of 38.7%. Following this interviews were held with the four programme leaders and a small sample of module tutors, employers and professional body representatives.

### **3. Results from the Survey of Various Stakeholders**

The following presents the main findings from the student questionnaire, separated into learner demographics and the student experience.

#### **3.1 Learner Demographics**

##### *Age and Gender*

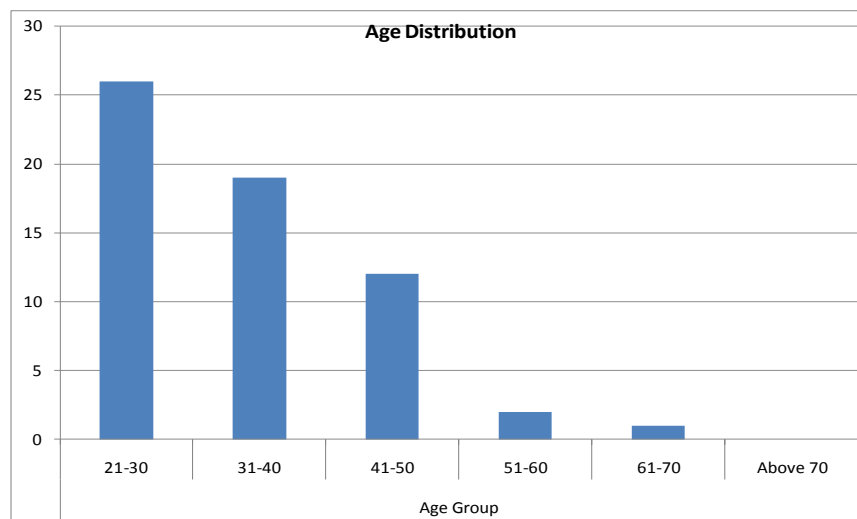


Fig.1. Age distribution of Students

As shown in Fig. 1, 26 (43%) of students have taken up WBL at the age of 21-30 years, a high percentage which may be an indication of the current difficult economic environment where full-time commitment for education is not affordable. 52% are in the age range 31-50 years which is normal for WBL but interestingly there are 2 students in the age group of 51-60 years and one in the age range 61-70 years.

Among the respondents 37% are males and 63% females. This reflects the nature of programmes being considered and the number of respondents from each programme as shown above. ILM and RM are female dominated professions which

represent 71.6% of the respondents out of the total, while IT and Engineering are more male dominated professions.

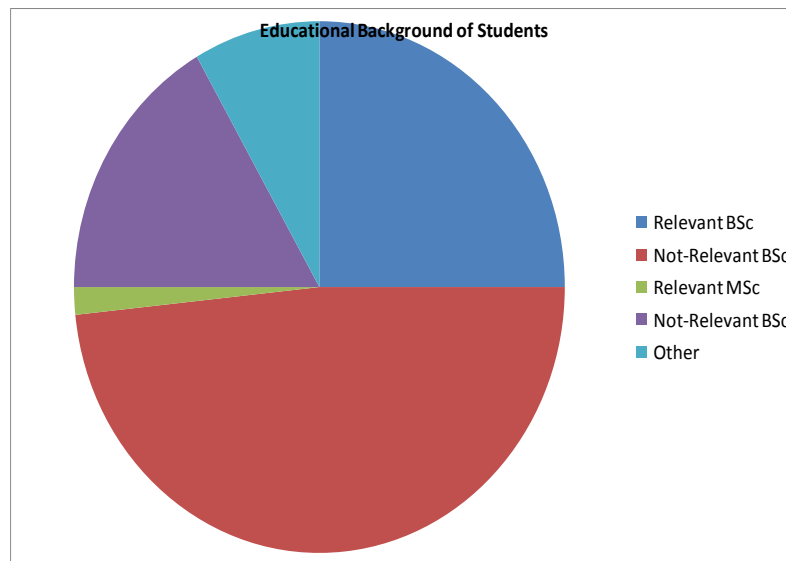


Fig.2. Educational background of Students

As shown in Fig. 2, 73% of students are bachelor degree holders, but interestingly only 34% have a degree that is relevant to their chosen MA/MSc WBL programme. From the 27% postgraduate degree holders, only 9% have a relevant degree to their current MA/MSc WBL programme. One participant does not have any higher education qualification and thus entered the programme via an Accredited Prior Experiential Learning (APEL) route.

### *Employment*

Library Assistants represent the main sole profession with 20% of respondents indicating this as their main employment. A further 26.7% work at a managerial capacity (Records Managers, IT Managers, Librarians, Engineering managers, Information specialists and IT specialists). Interestingly, there are a small number of unemployed and voluntary workers plus one house wife among the students on the WBL programmes.

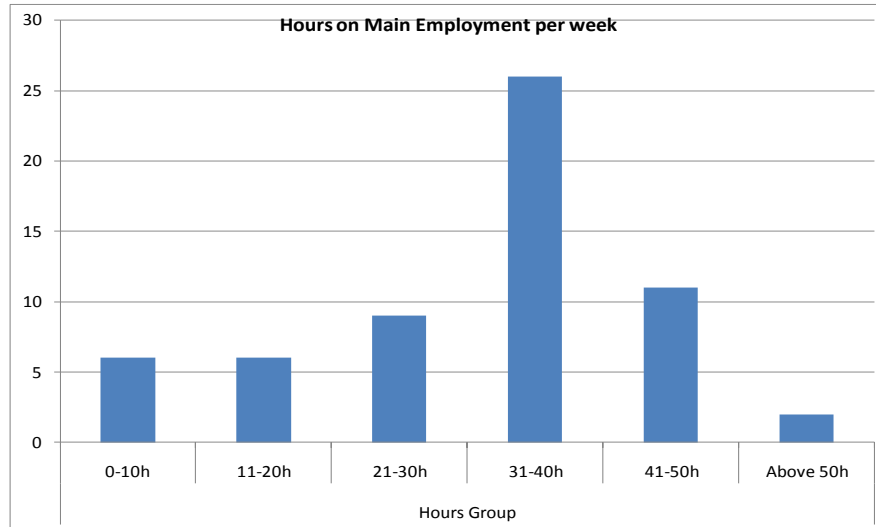


Fig.3. Employment hours per week

According to Fig. 3, 43% of the students fall into the category of standard working hours (31-40hrs/week) and another 18% work 41-50hrs/week indicating over 60% of students are in full-time permanent positions. Two students are even working >50 hours per week while the rest can be considered as part-time workers having 0-30 hrs/week. What really matters here for full-timers is the time they have or are allocated for studies alongside their employment. If they are fortunate enough, employers may give them some time to study during work hours but then how about the rest?

#### *Sponsorship for studies*

- 82% of students either fully or partly pay for their studies themselves or get family support.
- 22% of students are fully sponsored and 12% are partly sponsored by the employers.
- 37% had no applicability for the sponsorship question indicating students learn without the knowledge of employers or without any support from employers.
- 10% of students have got scholarships/grants.



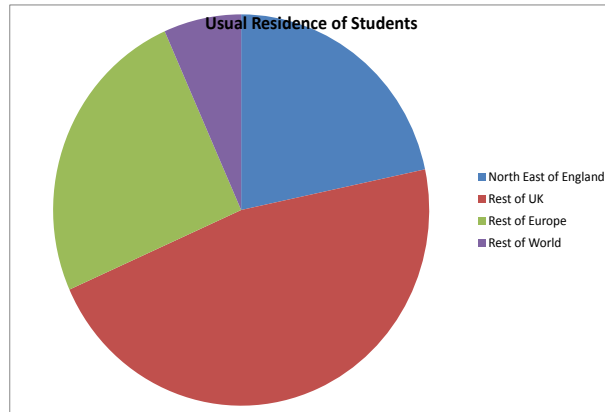


Fig.4.The location of students' residence

Fig. 4 shows that 21% of students come from the North East of England and can be considered local whereas 47% are from rest of the UK. Overall this means 68% students are UK based. From the rest, 25% of the total come from rest of Europe and only 6.7% are from rest of the world. The point here is that these UK-based WBL programmes are not so popular yet in the rest of the world outside Europe. But on a positive note, these Northumbria University WBL programmes are catering successfully for students across the UK and Europe.

The other important observation one can make out of this result is that online learning has really 'broken' the distance barrier which traditionally hinders students from obtaining qualifications outside their local area.

### 3.2 Student Experience

#### Access

- 97% of students access content from home providing the flexibility of anytime, anywhere, learning at own pace.
- 57% of students access the content from workplace, which could be with or without their employers' knowledge/permission. Either way it's a good sign that the workplace has an environment for them to study breaking the early myth that higher education can happen only at Universities.

- There are three students who access content using wireless tools like Blackberry or wireless laptops. This low number may be linked to the age profile of the students.
- 18% students use University or public libraries and even Internet cafes to access content.

#### *Main Reasons to choose distance/online/WBL programme*

- 77% of students prefer to study at their own pace.
- Only 40% prefer self-learning while 37% have a neutral response for self learning. Interestingly, 18% of students do not agree with the self-learning mode.
- 67% of students prefer the anywhere learning concept and not having to commute to the University while 17% are neutral on this issue and a further 10% do not agree. This shows that there are some students that would like more of a community feeling to their learning.
- 90% of students prefer the main essence of distance learning which is anytime learning.

#### *Inclusion of an Induction programme*

58% of students prefer to have an Induction program at the beginning while another 17% are neutral on that issue. 10% of students disagree with this. The reason for this latter percentage may be that some students already feel strongly prepared for self-learning/distance learning.

#### *e-Learning Portal (ELP)*

62% of students are happy about the user-friendliness of the ELP while another 27% are neutral. Only 12% of students disagree and find the ELP not user-friendly. This contradicts to some extent with the results of the interviews held with the academic staff (module tutors and programme leaders). These staff gave many negative remarks regarding the ELP. Students may be using the ELP very minimally only for content download and a few other functions which do not require much sophistication in the ELP. Students primarily access the ELP as a user viewing

content and using it to contribute to online activities. Academic staff on the other hand, uses the ELP to set up module and organisation sites and populate and manage them for students. Thus their views may reflect the difficulties in using the ELP from a control and management point of view, rather than just using it as a learner.

#### *Online Discussion and chats*

37% of students agree that discussions and chats could replace the physical presence in the face to face classroom while 33% are neutral on this aspect. A further 23% disagree with this indicating they still like a physical community environment for learning. This was reinforced when students were asked whether they would like to have some physical classroom sessions in addition to the distance learning (blended learning) with 48% agreeing with that and a further 27% being neutral.

#### *Programme Leader (PL)*

The Programme Leader's key role as the care taker, mentor, listener, coordinator, grievance taker etc is very well justified by the students with 92% of respondents saying their PL is supportive and accommodating and the rest being neutral.

#### *Module Tutors*

Students were asked for their views on module tutors by answering questions in regard to the most recent tutors they had had (up to a maximum of four). Students have very few problems with the feedback time and responsiveness of tutors with very positive views for the most recent tutors for their programme. For example, 85% of students agreed that their most recent tutor had provided good feedback and been responsive and 72% of students agreeing the same for their second tutor.

When students were asked about their tutors' subject knowledge and expertise, 90% agreed that it was very good for their most recent tutor and 78% agreed for their second tutor.

### *Multimedia elements in the content*

While 67% of the students prefer multimedia elements in the content to aid learning/understanding, a further 13% are neutral, and 18% of students either did not like the inclusion of them or could see no relevance to having them.

### *Quality of learning material*

Students agree that the online learning material is of high quality for their four most recent modules they were questioned about. For example their most recent module shows a 78% agreement rate (plus 18% neutral) and their second module a 75% (plus 10% neutral) agreement rate.

### *Future benefits*

All (100%) of students responded agreeing to the fact that their personal development will be ensured with the increased knowledge and skills from their programme.

When asked as to whether they would like to continue education in this mode after completing the MSc programme, 37% agree and 28% are not sure. Interestingly, another 28% disagree for one reason or other.

### *Adapting to online learning*

53% of students disagree when asked whether it is difficult to adjust to online learning and 33% agree. This reflects the distribution of students across the disciplines and their individual backgrounds in terms of IT literacy and previous online learning experience.

### *Employer support*

- 22% of students are fully sponsored and 12% are partly sponsored
- There are employers who offer free study hours during work time (18%) and encourage students (25%).
- 37% had no applicability for the sponsorship question meaning students learn either without the knowledge of employers or without any support from employers

### *Access*

57% of students access the content from workplace which could be with or without their employers' knowledge. Either way it's a good sign that the workplace

provides an environment from which they can study breaking the early myth that higher education can happen only at Universities

#### *Mentor at workplace*

77% of students have no mentors allocated at the workplace and only 15% have mentioned that they have a mentor (mostly engineering students) which is disappointing and is not in line with the underlying philosophy of WBL.

#### *Relevancy of curriculum to workplace*

55% of students agree that what they learn is applicable to their work role with only 25% disagreeing. This is welcoming news for employers.

#### *Academic Environment*

- 97% of students acknowledge that the programme leader's support is exceptional
- feedback time and responsiveness of tutors and their subject knowledge/expertise are highly acknowledged by students
- Students assessed the following university services as follows:-
  - ✓ IT – 70% satisfied
  - ✓ Library – 75% satisfied
  - ✓ Student Services – 28% satisfied while 55% had no importance/relevance
  - ✓ Finance – 47% satisfied while 15% disagree and 18% indicated not applicable
- Existence of an acceptable monitoring mechanism on student progress was accepted by 43% of students where another 28% gave average responses.

#### *External Context*

82% of students are aware/have accepted that completion of the MSc will upgrade their professional status

- Accreditation of APEL and APL are not applicable for as many as 70% and 72% of students respectively which again contradicts WBL concepts/practices

The above analysis is based on the responses to Multiple Choice Questions (MCQ). Students also made some interesting remarks in answer to any other comments. These included:

- Experience of distance learning can be quite a lonely one particularly if you are overseas
- Although discussion boards (DB) are helpful they cannot replace the classroom atmosphere with its spontaneous interaction
- I have found the course and mode of learning a breath of fresh air and have adapted to it much easier than expected
- All materials and assignments are accessible and interesting to me
- I find being able to learn in my own time brilliant for balancing with my home life
- This way I fit in working, parenting and studying as it suits me
- One lecturer was very poor in responding
- I often felt neglected due to lack of face-to-face contact
- Complaints were not taken seriously
- Sometimes you don't realise you've misunderstood something until the very end as you have no personal contact with others
- Desktop anywhere should be clearly explained as it allows non UK users to access the library in a timely manner
- I find there is no informal discussion area on ELP for students to air their gripes etc
- I'm honestly doing this because you can't get a job without a library MA
- I missed not having an introductory meeting in Newcastle as I found it difficult to feel a sense of belonging to a group
- The learning materials could have been more varied (e.g. video casts or lectures, live chats)

The results from the student interview provided above demonstrate that students are largely satisfied with their student experience and realise the benefits of studying in this mode. However there are issues around feeling isolated and not being fully integrated into the academic environment. It appears that induction and activities and facilities that support building a sense of community should be reviewed to help address these concerns. In addition students largely welcome the use of

technology to support their studies although these aspects could be enhanced within the programme delivery. In terms of the workplace, there is wide variation in the support that students receive from their employers and further research is needed to look into this aspect in more depth. Finally the involvement of the professional body in the programmes is a key motivator for a large proportion of students and thus it is important that the university and programme teams continue to maintain and build on these relationships with their professional bodies.

#### **4. Views from All Stakeholders: Positives and Issues**

In addition to the online student questionnaire, eight tutors, four programme leaders, two officers from professional bodies and two employees were interviewed. The key findings from these interviews together with the results from the student questionnaire have been combined into a set of tables demonstrating the key positive findings and key issues. These tables formed the basis for the workshop discussion at the ALDinHE Conference. At the end of each table, the inputs from workshop participants have been included (*in italics*).

Table 1. The Learner

<b>Key Positive Findings</b>
Flexible Learning (anytime, anywhere, any digital tool, at own pace)
Balance of life (working/earning, parenting/family life, learning for a university qualification)
Opportunity to upgrade Professional status once completed
Improve IT skills
Study plan relates to workplace
Benefit of APEL/APL at enrolment
Sponsorships from Employers
Access to 24X7 virtual university
Multi-media elements on content to aid learning/understanding

Financially more affordable than full time studies due to savings on commuting, accommodation, etc
Multiple entry-exit points
Flexibility in paying fees
<i>Possible to suspend studies for a period if work gets in the way</i>
<i>Project work from study can be adapted to student's own situation within the organisation</i>
<b>Key Issues</b>
Feeling of isolation/missed community feeling. Less time/facility to discuss concepts, collaborate as a group, and bond socially
In-balance of life (working/earning/ parenting/family life/Social commitments etc)
Is the MSc guaranteed to upgrade Professional status once completed
Difficulties with IT skills
Not always the study plan relates to workplace due to difficulties at university end so mapping is difficult with work responsibilities
Is APEL/APL at enrolment really being applied?
Little financial support/lack of sponsorship from employer
Access to 24X7 virtual university is disturbed due to system failures/maintenance stoppages/technical issues
Less multi-media interactive elements in the content to aid learning/understanding due to staff time/capacity problems
Not all tutors supportive
Not being able to attend Induction/F2F day schools due to distance
Not all students keen on sharing knowledge on Discussion Boards
Have to be highly self-motivated to succeed
Different tutors give different instructions to submit assignments which makes it confusing
<i>Sometimes a feeling of being forgotten by the tutor</i>



Table 2. The Academic Environment

<b>Key Positive Findings</b>
Providing efficient support services (library, finance, IT, student services)
Application of APEL/APL to support/compensate selection criteria at the enrolment considering students' past experience/learning
Ensure quality of learning material
Efficient delivery of content using technology
Appropriate and timely assessment
Assurance of timely feedback
Continuous monitoring system to ensure student progress
Potential student numbers for WBL are rising with the recent full time fee Increases
Saves a lot of money on paper/bundling/posting/text books etc having uploaded all the content on ELP and availability of e-Books
Distance learning/teaching/tutoring experience of programme leaders/tutors
Being able to tailor the curriculum according to student's own discipline is very beneficial otherwise it would be very difficult to offer a common MSc across all engineering disciplines
University has established central support units like LTech for online content development support and WRLS to act as the bridge between the WBL programmes of different schools in the University and the university's policies, procedures and systems
<i>Potential for student created content as they work in industry</i>
<b>Key Issues</b>
Problems in providing efficient and effective support services (library, finance, IT, student services) for online WBL
Quality of learning material depends on tutors' commitment/time availability/resources provided etc which varies from module to module
Efficient and effective delivery of content using technology affected by system failures/complexities in eLearning Portal etc

Difficult to see student activities unless he/she pokes the tutor
WBL student numbers compared to full timers are low which makes university to pay less attention on WBL programmes
Difficulties in tailoring each and every student's program to their workplace role which takes a lot of time and effort
Programme Leaders always find it difficult to reserve class/seminar rooms for study schools
Difficulty of setting up synchronous communications (chats) with students due to global time differences
Difficulty of supporting weaker students at a distance and ensuring they remain motivated.
Cannot do placements, visit to places
Difficulties in recognising whether submitted work is actual student's or someone else had done it for the student
Difficulty of standardising APEL/APL as it depends on case-by-case basis
Central Support Services such as Learning Technology and WRLS cannot support everyone with their limited capacity
<i>Difficulty finding time to create or find good online content and resources</i>
<i>Maintaining academic nature rather than 'vocational training'</i>
<i>Sometimes difficult to embrace move from tutor centred to student/workplace centred approach</i>
<i>Reluctance of staff to embrace technology</i>

Table 3. The Workplace

<b>Key Positive Findings</b>
Employer support – financial, morale, time
Mentor support on study plan
Support from colleagues/peers
Study plan relates to workplace so subsequent benefit to workplace
<i>Project work from study has tangible outputs for the employer</i>

<b>Key Issues</b>
Employers not able to fund their employees for studies due to limited budget allocations in the current difficult economic environment
Not all employers support their employees in their studies
Mentors are too busy to support the student
Not getting support from colleagues/peers due to professional jealousy
The study plan does not always relate to the workplace so the workplace does not fully benefit
Employees change company/organisation after becoming qualified
<i>Training and guidance for mentors</i>

Table 4. The External context

<b>Key Positive Findings</b>
Accreditation of programmes
validity of programme for their profession 'seal of approval', induction
Marketing/awareness of university programmes among employers/employees
Funding for WBL programmes (Gateways project on MSc in Prof Engineering)
<b>Key Issues</b>
Less popularity/awareness about WBL concept among employers/employees
Difficulties in accreditation of programmes in terms of standards across different disciplines in the same field
Difficulties in validating the programme for their professional body 'seal of approval' compared to face- to-face, on campus programmes

## 5. Conclusions

Research on Work-based learning has been conducted by many researchers in many contexts but consideration of all the different stakeholders (the learner, the academic environment, the workplace and the external context) in the same model was not found in the literature. The data received through online student questionnaire and the interviews conducted with programme leaders, tutors, professional bodies and employers have been very informative and comprehensive. This paper discusses the main results from the survey of students and presents the key findings from all the different stakeholders in terms of two aspects: the positives and the issues/solutions. These results form the basis for developing a model for online WBL programmes to support the full range of stakeholders (see Fig. 5). The researchers will develop a toolkit for WBL based on the four pillar model at the end of the research.

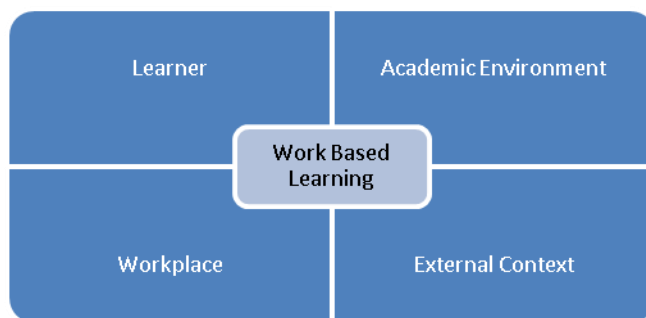


Fig. 5 WBL and the Stakeholder Contexts

## References

- Bennett, S. (2010) *Interview on WRLS*. 16/06/2010.
- Boud, D. and Solomon, N. (2001) *Work-based Learning: A New Higher Education?* 1 edn. Buckingham: Open University Press.
- Brennan, J. and Little, B. (2006) *Towards a Strategy for Workplace Learning: Report of a study to assist HEFCE in the development of a strategy for workplace learning* (Accessed: 08/06/2010) London: Centre for Higher Education Research & Information.
- Durrant, A., Rhodes, G. and Young, D. (2009) *University-Level Work Based Learning*.

Middlesex University Press.

Liyanage, L. (2010) *From traditional to technology enabled tertiary education in Sri Lanka*. Lambert.

Liyanage, L., Pasqual, A. and Wright, C. (2010) "Lessons Learned in Managing ICT Systems for Online-Learning" ', *5th Conference of Learning International Networks Consortium (LINC) University Leadership: Bringing Technology-Enabled Education to Learners of All Ages* From May 23rd - 26th, 2010. The campus of the Massachusetts Institute of Technology in Cambridge, Massachusetts, USA. Available at: <http://linc.mit.edu/linc2010/proceedings/session9Liyanage.pdf> (Accessed: 30/04/2011).

Liyanage, L., Strachan, R., Keogh, S. and Hanlon, S. (2010) 'Evaluation of Using Distance Learning to support Work-based learning programmes: A case study from Northumbria University, UK', *E-Learn 2010*. 19 October 2010. Orlando, Florida.

Nixon, L., Smith, K., Stafford, R. and Camm, S. (2006) *Work-based learning: Illuminating the higher education landscape* [Online]. Available at: [http://www.asetonline.org/documents/wbl\\_illuminating.pdf](http://www.asetonline.org/documents/wbl_illuminating.pdf) (Accessed: 30/05/2010) York: The Higher Education Academy.

Shiel, G. (2010) *Interview on Flexible Learning Centre*. 15/07/2010.

University, N. (2010) *Work-based Learning Framework*. Available at: <http://www.northumbria.ac.uk/sd/central/ar/lll/lla/>.

### ***Brief Biographical Details***

Rebecca Strachan is Associate Dean for Learning and Teaching in the School of Computing, Engineering and Information Sciences at Northumbria University. I am an active researcher in learning and teaching issues with a particular interest on the use of technology to support the learning experience. I also maintain a strong interest in my subject area, computer networks from both a teaching and research point of view.

Lalith Liyanage is a PhD student and a part-time lecturer in the School of Computing, Engineering and Information Sciences at Northumbria University. His research interests are online learning, distance education, work-based learning and project management. He has published a book and many conference papers in this

area during last 10 years. By profession he is an Electrical Engineer recently converted to the Information and Communication Technology field.

Biddy Casselden is the programme leader for the MA/MSc in information and Library Management at Northumbria and teaches in the areas of management and information storage and retrieval. After gaining her MA in information and Library Management, she has had a variety of information related posts, including researcher, resource support officer, newspaper librarian, study skills centre manager and subject librarian - all of which have provided her with useful skills and experience to bring to her current academic role.

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